

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)
)
)
Application of Harris CapRock Corporation)
for Modification of License to Add an Earth) File No:
Stations Onboard Vessel (“ESV”) Terminal)
in the 14.0-14.5 GHz (Transmit), 5.925-) Call Sign: E060157
6.425 GHz (Transmit), 11.7-12.2 GHz)
(Receive) and 3.700-4.200 GHz (Receive))
Frequency Bands)
)

Application for License Modification

By this application, Harris CapRock Corporation (“Harris CapRock”) seeks Commission authority to modify its existing earth station onboard vessel (“ESV”) license, Call Sign E060157. Specifically, Harris CapRock seeks to add 1,000 new 2.4m multi-band ESV terminals (Model ST5000-2.4) to the license for operations in the 3.7-4.2 GHz (space-to-Earth) and 5.925-6.425 GHz (Earth-to-space) bands (collectively, the “C-band”) and 11.7-12.2 GHz (space-to-Earth) and 14.0-14.5 GHz bands (Earth-to-space) (collectively, the “Ku-band”). The ST5000-2.4 terminal will enhance Harris CapRock’s authorized ESV network, providing a wide array of essential satellite communications services to vessels in motion, stationary oil drilling platforms and mobile rigs, where alternative communications services are not available.

I. BACKGROUND

As the Commission is aware, Harris CapRock has been engaged in extensive development and testing of its ST5000-2.4 terminal, which is designed to communicate in C-band, Ku-band and Ka-band fixed-satellite service (“FSS”) frequencies.¹ Harris CapRock presently holds experimental special temporary authority (“STA”) to test the

¹ Harris CapRock intends to file a separate modification application addressing Ka-band operating authority for the ST5000-2.4 terminal.

ST5000-2.4 terminal at specific inland locations in Florida and Houston,² and has submitted separate filings with the International Bureau to cover testing and demonstrations of the ST5000-2.4 onboard cruise ships in advance of its commercial deployment of the terminals.³ Harris CapRock is now filing this modification application to include the ST5000-2.4 terminal in its commercial ESV license Call Sign E060157.⁴

Grant of the requested authority will allow Harris CapRock to improve its commercial ESV network and enable more efficient provision of critical communications services to government users and commercial customers in the maritime, oil and gas, and other industries using innovative new terminal technologies. Consistent with Section 25.117 of the Commission's rules, Harris CapRock provides the attached Form 312, Schedule B, Technical Appendix and associated exhibits for relevant information relating to the ST5000-2.4's operational characteristics, including the information required under Sections 25.221 and 25.222 of the Commission's rules.

II. DISCUSSION

The ST5000-2.4 terminal is comprised of a 2.4m circular reflector antenna with multiple feeds, an antenna positioner, and an antenna control module. The antenna positioner and control module are the same as those used in Harris CapRock's SpaceTrack 4000 series of stabilized antennas.⁵ As further detailed below and in the attached Compliance Statements and Technical Appendix, the ST5000-2.4 terminal is designed to meet the Commission's requirements for ESV operations in the C-band and Ku-band, including: (i) maintaining off-axis EIRP within the levels set forth in the applicable FCC

² See File No. 0734-EX-ST-2015.

³ See File No. SES-STA-20150805-00511; see File No. SES-MSC-20150728-00474.

⁴ Based on consultations with Commission staff, adding the multi-band ST5000-2.4 to one of Harris CapRock's existing ESV blanket licenses to obtain C-band and Ku-band operating authority would further the interests of administrative convenience by facilitating a more efficient license modification and review process. Harris CapRock will seek commercial authority to operate the subject terminal in Ka-band frequencies in a separate application.

⁵ The SpaceTrack 4000 has been previously licensed by the FCC in C-band and Ku-band ESV configurations and has years of proven experience in the field.

mask; (ii) maintaining a pointing accuracy of 0.2° or better; (iii) automatic cessation of emissions within 100 ms if pointing offset exceeds 0.5°; and (iv) not resuming transmissions until pointing accuracy is within 0.2°.⁶

Harris CapRock seeks authority to operate the ST5000-2.4 terminal in accordance with the geographic limitations and coordination provisions in the Commission's rules designed to protect other users of the spectrum. For C-band operations in particular, consistent with Commission policy, Harris CapRock intends to file coordination information for routes within 200 km from the baseline of the United States, or within 200 km from a U.S.-licensed fixed service offshore installation, in a separate submission.⁷ In the meantime, however, the Commission can add the ST5000-2.4 terminal to Harris CapRock's existing ESV license consistent with past precedent.⁸ Harris CapRock does not seek to alter the authorized satellite points of communication in its ESV license, or to change the network control and hub earth station facilities associated with its licensed ESV operations.

Grant of the requested ESV operating authority will strongly serve the public interest. As described in the application materials, the new ST5000-2.4 terminal complies fully with the FCC's rules and policies governing C-band and Ku-band ESV operations. In addition, adding the ST5000-2.4 to Harris CapRock's license will allow Harris CapRock to provide more robust broadband satellite communications services to a wide array of users, including vessels in motion, marine barges and remote oil platforms that may be unable to obtain communications services through alternative facilities. Users will be able to utilize high-speed Internet access, corporate VPN, e-mail, voice and other services, including emergency communications to support employees in remote locations, throughout international and U.S. waterways. Moreover, the ST5000-2.4

⁶ See 47 C.F.R. §§ 25.221 & 25.222.

⁷ See 47 C.F.R. § 25.221(a)(12). Harris CapRock is in the process of coordinating certain C-band ESV routes with potentially affected fixed service licensees and anticipates filing separate coordination information for these routes in the near term.

⁸ See *id.* The Commission routinely grants authority to operate C-band ESVs separate from the route coordination process.

multi-band terminal will facilitate operational flexibility and service optimization based on spectrum availability and customer needs.

III. CONCLUSION

In view of the foregoing, Harris CapRock respectfully requests that the Commission grant its application to modify its existing ESV license (Call Sign 060157) by adding authority to operate the ST5000-2.4 terminal in C-band and Ku-band frequencies at the earliest practicable time.